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(54) FERROELECTRIC SUBSTANCE STORAGE DEVICE

(57)Abstract:

PURPOSE: To provide a means for realizing a ferroelectric substance storage device free from deterioration of characteristics, with high reproducibility.

CONSTITUTION: A source electrode 3 and a drain electrode 4 are formed on both ends of an oxide channel 1 which has electric conductivity or can control conductivity. A gate electrode 5 is formed on the oxide channel 1, via a ferroelectric substance gate insulating film 2. By sandwiching the ferroelectric substance gate insulating film 2 between the gate electrode 5 and a ground electrode 6, the polarization of the ferroelectric substance gate insulating film 2 can be increased. The channel is formed by using oxide having perovskite structure or spinel structure, and the conformity of the bonding surface to the ferroelectric substance is improved. Thereby mutual diffusion of constituent elements can be prevented. When the oxide channel 1 or the ferroelectric substance gate insulating film 2 is formed, resistance is reduced by high concentration impurity doping, and the gate electrode or the ground electrode can be formed by using the low resistance layer.

